STANDARD SHAPES

.... IN ....

FIRE CLAY BRICK

and

SILICA BRICK

W. M. Leonard.

The Interstate Clay Products Company

CHICAGO, ILLINOIS

ADOPTED JULY 29, 1913, BY THE MEMBERS OF
THE REFRACTORIES MANUFACTURERS ASSOCIATION

REVISED TO JULY 25, 1919

BRANDS and USES

"NATIONAL" Heating Furnaces, Puddling Furnaces, Blast Furnace Stoves, Rolling Mill Furnaces, Boilers, etc.

"STANDARD" Gas Furnaces, Annealing Ovens, Sewer Pipe and Brick Kilns, Boiler Settings, Gas Producer Linings, Cupolas.

"MINOR" Malleable Iron and Steel Foundries, Ladles, Cupolas, Soaking Pits, Annealing Ovens, Hot Blast Stoves, Down-comers and Dust-catchers, Hot Metal Cars, Boiler Settings, Gas Producer Linings and Lime Kilns.

"EMPIRE" Top Linings of Blast Furnaces and Lime Kilns.

"L. H. STEEL" Open Hearth Furnaces, Blast Furnaces, Carbon Furnaces, Stokers, Forge Furnaces, Muffle Furnaces, Rolling Mill Furnaces, Sheet and Pair Furnaces, Puddling Furnaces, Heating Furnaces, General Glass House Work, etc.

"PENN" Blast Furnace Tops, Lime Kilns and other similar purposes.

"ALUMINITE" Rotary Kiln Linings, Chemical Acid Furnaces.

"STANDARD ZOAR" Ladle Linings, Mill Brick and general third quality work.

"F. R. C." (Silica Brick). Open Hearth Furnaces, By-Product Coke Ovens, Electric Steel Furnaces, Glass Tanks, Reverberatory Furnaces.

"F. R. C." (Magnesite Brick). Basic Open Hearth Furnaces, Smelting Furnaces, Electric Furnaces, Soaking Pits, Copper Reverberatories, Metal Mixers, etc.

"F. R. C." (Chrome Brick). Basic Open Hearth Furnaces, Soaking Pits, Copper Smelting and Refining Plants.

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FOREWORD

MODERN BUSINESS practice has accepted standardization as one of its most important principles. Standardization reduces cost and makes for ease in handling; it lowers the overhead by increasing the output per square foot of floor area, permits the accumulation of salable stock during periods of low demand and so insures prompt deliveries when demand is at its peak. It leads to *service*—the keynote of business success.

This little booklet gives, in simple form, the progress of standardization in the refractories industry. It aims to enlist the user of fire clay and silica shapes in the ranks of those who, believing that unnecessary labor and unnecessary expenditures are economic wastes, are doing their part to reduce these wastes to the lowest possible point.

It must be apparent to even the most casual thinker, that the buyer who insists upon using special made-to-order shapes when standard shapes will serve his purpose, not only adds to the manufacturing cost of his shape brick, but increases the cost of the straight brick which usually forms a great part of his requirements.

And by increasing this manufacturing cost, he inevitably adds to the price that he must pay for every refractory brick he uses.

So the manufacturer who is convinced that some standard shape will answer the same purpose as a special made-to-order shape and who calls his customer's attention to that fact, renders a real service — not only to the industry in which he is engaged, but to the industry which is buying and using his material.

STANDARD 9" SHAPES IN

9" STRAIGHT
9" x 4½" x 2½"

SMALL 9" BRICK
9" x 3½" x 2½"

SOAP
9" x 2¼" x 2½"

CHECKER
9" x 2¾" x 2¾"

SPLIT BRICK
9" x 4½" x 1¼"

2" BRICK
9" x 4½" x 2"

NO. 2 WEDGE
9" x 4½" x (2½" — 1½")

NO. 1 WEDGE
9" x 4½" x (2½" — 1⅛")

No. 3 WEDGE
9" x 4½" x (3" — 2")

No. 1 KEY
9" x (4½" — 4") x 2½"

No. 2 KEY
9" x (4½" — 3½") x 2½"

No. 3 KEY
9" x (4½" — 3") x 2½"

No. 4 KEY
9" x (4½" — 2¼") x 2½"

No. 1 NECK
9" x 4½" x 3½" x 2½" x ⅝"

No. 2 NECK
9" x 4½" x 2½" x 1½" x ⅝"

NO. 3 NECK
9" x 4½" x (2½" — ⅝")

STANDARD 9" SHAPES IN

NO. 1 ARCH
9" x 4½" x (2½" — 2⅛")

NO. 2 ARCH
9" x 4½" x (2½" — 1¾")

NO. 3 ARCH
9" x 4½" x (2½" — 1")

JAMB BRICK
9" x 4½" x 2½"

END SKEW
(9" — 6¾") x 4½" x 2½"

SIDE SKEW
9" x (4½" — 2¼") x 2½"

EDGE SKEW
9" x (4½" — 1½") x 2½"

FEATHER EDGE
9" x 4½" x (2½" — ⅛")

FIRE CLAY MATERIAL

24" CIRCLE BRICK
24"INS. DIAM. 33"OUTS. DIAM.
12 TO A CIRCLE
(9"—) x 4½" x 2½"

36" CIRCLE BRICK
36"INS. DIAM 45"OUTS. DIAM.
15 TO A CIRCLE

48" CIRCLE BRICK
48"INS. DIAM. 57"OUTS. DIAM.
20 TO A CIRCLE

60" CIRCLE BRICK
60"INS. DIAM 69"OUTS. DIAM.
25 TO A CIRCLE

72" CIRCLE BRICK
72" INS. DIAM. 81"OUTS. DIAM.
28 TO A CIRCLE

FLAT BACK STRAIGHT
9" x 6" x 2½"

FLAT BACK ARCH
9" x 6" x (3½" — 2½")

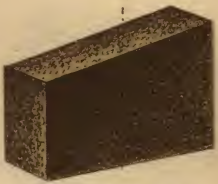
LARGE 9"
9" x 6¾" x 2½"

LARGE 9" No. 1 WEDGE
9" x 6¾" x (2½" — 1⅛")

LARGE 9" No. 2 WEDGE
9" x 6¾" x (2½" — 1½")

9" x 6" x 2¼" STRAIGHT
ALSO 9" x 6" x 3"

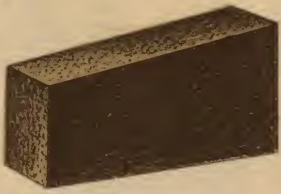
9" x 6" No. 1 KEY
9" x (6" — 5⅜") x 2¼"
ALSO 9" x (6" — 5⅜") x 3"



9" x 6" No. 2 KEY
9" x (6" — 4$\frac{13}{16}$") x 2¼"
ALSO 9" x (6" — 4$\frac{13}{16}$") x 3"

FIRE CLAY MATERIAL

13½" STRAIGHT
13½" x 6" x 2½"
ALSO 13½" x 6" x 3"



13½" No. 1 KEY.
13½" x (6" — 5") x 2½"
ALSO 13½" x (6" — 5") x 3"

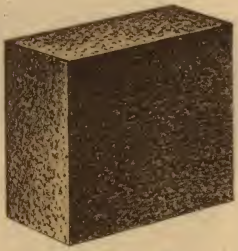
13½" No. 2 KEY
13½" x (6" — 4⅜") x 2½"
ALSO 13½" x (6" — 4⅜") x3"

13½" No. 1 WEDGE
13½" x 6" x (3"—2¾")

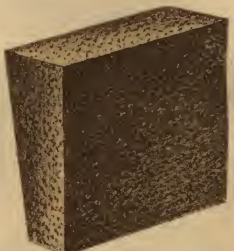
13½" No. 2 WEDGE
13½" x 6" x (3"—2½")

9″ ROTARY KILN BLOCKS
(9″ —) x 9″ x 4″

No. OF BLOCK	DIAMETER INSIDE	OUTSIDE
48	48″	66″
54	54″	72″
60	60″	78″
66	66″	84″
72	72″	90″
78	78″	96″
90	90″	108″
102	102″	120″

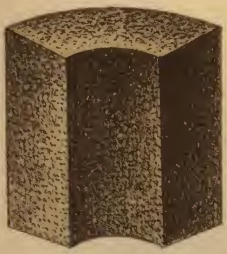


FOR GAS FLUES
9″ x 9″ STRAIGHT
FOR ENLARGING CIRCLES
9″ x 9″ x 3½″
ALSO 13½″ x 9″ x 3½″



FOR GAS FLUES
9″ x 9″ ARCH
FOR 3,′ 4,′ 5′ INSIDE DIAMETER
9″ x 9″ x (3½″ —)
ALSO 13½″ x 9″ x (3½″ —)
FOR 3′—9″ x 9″ x (3½″— 2¼″)
" 4′—9″ x 9″ x (3½″— 2$\frac{11}{32}$″)
" 5′—9″ x 9″ x (3½″— 2$\frac{11}{16}$″)
FOR 3′—13½″ x 9″ x (3½″— 2¼″)
" 4′—13½″ x 9″ x (3½″— 2$\frac{11}{32}$″)
" 5′—13½″ x 9″ x (3½″— 2$\frac{11}{16}$″)

FIRE CLAY MATERIAL

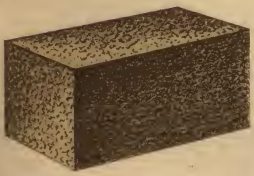


CUPOLA BLOCKS
(9" —) x 9" x 4½"

SIZE	DIAMETER INSIDE	DIAMETER OUTSIDE
No. A	16"	25"
" B	21"	30"
" C	27"	36"
" D	30"	39"
" E	40"	49"
" F	51"	60"
" G	60"	69"
" H	73"	82"

CUPOLA BLOCKS
(9"—) x 6" x 4"

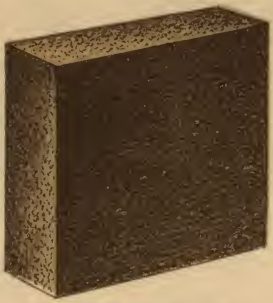
No. OF BLOCK	DIAMETER INSIDE	DIAMETER OUTSIDE
30	30"	42"
36	36"	48"
42	42"	54"
48	48"	60"
54	54"	66"
60	60"	72"
66	66"	78"
72	72"	84"



OPEN HEARTH CHECKER

9" x 4½" x 4½"
10" x 4½" x 4½"
10½" x 4½" x 4½"
10¾" x 4½" x 4½"
12" x 4½" x 4½"

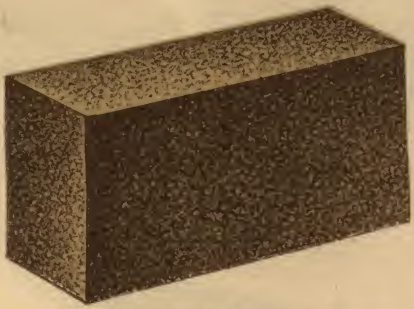
BRIDGE BLOCK
13½" x 6" x 3"



SQUARE EDGE TILE
12″ x 12″ x 3″

ALSO MADE IN:

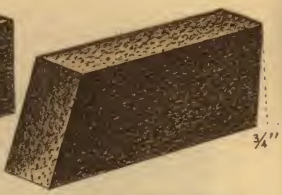
Length	3″ Thick 6″ Series	3″ Thick 9″ Series	4″ Thick 9″ Series	4″ Thick 12″ Series
18″	18″ x 6″ x 3″	18″ x 9″ x 3″	18″ x 9″ x 4″	18″ x 12″ x 4″
22½″	22½″ x 6″ x 3″	22½″ x 9″ x 3″	22½″ x 9″ x 4″	22½″ x 12″ x 4″
27″		27″ x 9″ x 3″	27″ x 9″ x 4″	27″ x 12″ x 4″
31½″				31½″ x 12″ x 4″
36″				36″ x 12″ x 4″



BLAST FURNACE BOTTOM BLOCK
18" x 9" x 4½"
ALSO 18" x 12" x 8"

STOCK HOLE TILE
18" x 9" x 4½"

No. 101 SQUARE BUNG
13" x 4¼" x 3"



No. 102 ANGLE BUNG
(11⅜" — 12¾") x 4¼" x 3"

BUNG ARCH
9" x 4½" x (2¼" — 2⅜")

No. 103 ARCH BUNG
13" x 4¼" x (3" — 2⅝")

No. 104 ARCH ANGLE BUNG
(11⅜" — 12¾") x 4¼" x (3" — 2⅝")

AS ADDITIONAL SHAPES ARE STANDARDIZED SUPPLEMENTARY SHEETS WILL BE ISSUED.

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F. R. C.
SILICA
BRICK

STANDARD 9" SHAPES IN

9" STRAIGHT
9" x 4½" x 2½".

SMALL 9" BRICK
9" x 3½" x 2½"

SPLIT BRICK
9" x 4½" x 1¼"

2" BRICK
9" x 4½" x 2".

SOAP
9" x 2½" x 2¼"

No. 1 WEDGE
9" x 4½" x (2½" — 1⅜")

No. 2 WEDGE
9" x 4½" x (2½" — 1½")

No. 3 WEDGE
9" x 4½" x (3" — 2")

No. 1 KEY
9" x (4½" — 4") x 2½"

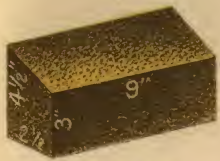
No. 2 KEY
9" x (4½" — 3½") x 2½"

No. 3 KEY
9" x (4½" — 3") x 2½"

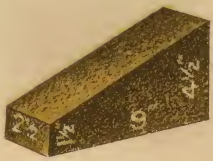
No. 4 KEY
9" x (4½" — 2¼") x 2½"

END SKEW
(9" — 6¾") x 4½" x 2½"

SIDE SKEW
9" x (4½" — 2¼") x 2½"



3" SIDE SKEW
9" x (4½" — 3") x 2½"



EDGE SKEW
9" x (4½" — 1½") x 2½"

STANDARD 9" SHAPES SILICA MATERIAL

JAMB BRICK
9" x 4½" x 2½"

NECK BRICK
9" x 4½" x 2½" x ⅝"

FEATHER EDGE
9" x 4½" x (2½" — ⅛")

NO. 1 ARCH
9" x 4½" x (2½" — 2⅛")

NO. 2 ARCH
9" x 4½" x (2½" — 1¾")

NO. 3 ARCH
9" x 4½" x (2½" — 1")

STANDARD SHAPES IN SILICA MATERIAL

STRAIGHT
12" x 4½" x 3"

No. 1 WEDGE
12" x 4½" x (3" — 2¾")

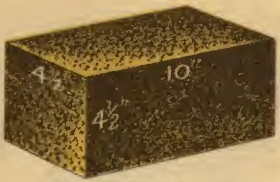
No. 2 WEDGE
12" x 4½" x (3" — 2½")

No. 3 WEDGE
12" x 4½" x (3" — 2")

STRAIGHT
9" x 6¾" x 2½"

No. 1 WEDGE
9" x 6¾" x (2½" — 1⅞")

No. 2 WEDGE
9" x 6¾" x (2½" — 1½")

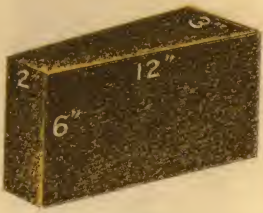


CHECKER BRICK
10" x 4½" x 4½"
9" x 4½" x 4½"

STRAIGHT
12" x 6" x 3"

No. 1 WEDGE
12" x 6" x (3" — 2¾")

No. 2 WEDGE
12" x 6" x (3" — 2½")



No. 3 WEDGE
12" x 6" x (3" — 2")

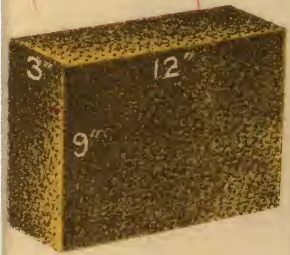
SILICA MATERIAL

No. 1 KEY
12" x (6" — 5½") x 3"

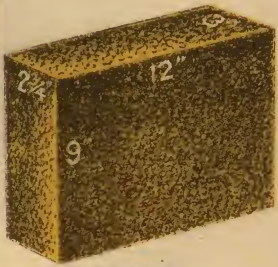
No. 2 KEY
12" x (6" — 5") x 3"

No. 1 ARCH
12" x 6" x (3" — 2½")

No. 2 ARCH
12" x 6" x (3" — 2")



STRAIGHT
12" x 9" x 3"



No. 1 WEDGE
12" x 9" x (3" — 2¼")

No. 2 WEDGE
12" x 9" x (3" — 2½")

No. 3 WEDGE
12" x 9" x (3" — 2")

STRAIGHT
13½" x 6" x 2½"

STRAIGHT
13½" x 6" x 3"

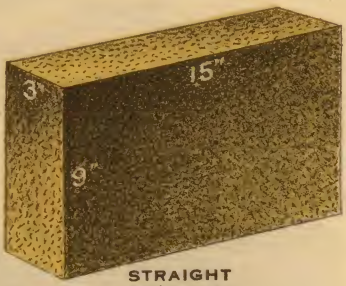
ALSO No. 1 WEDGE 13½" x 6" x (3" — 2¾")
" No. 2 WEDGE 13½" x 6" x (3" — 2½")
" No. 3 WEDGE 13½" x 6" x (3" — 2")
" No. 1 ARCH 13½" x 6" x (3" — 2½")
" No. 2 ARCH 13½" x 6" x (3" — 2")

STRAIGHT
13½" x 9" x 3"

ALSO No. 1 WEDGE 13½" x 9" x (3" — 2¾")
" No. 2 WEDGE 13½" x 9" x (3" — 2½")
" No. 3 WEDGE 13½" x 9" x (3" — 2")
" No. 1 ARCH 13½" x 9" x (3" — 2½")
" No. 2 ARCH 13½" x 9" x (3" — 2")

STRAIGHT.
15"x6"x3"

ALSO No. 1 WEDGE 15"x6"x(3"—2¾")
" No. 2 WEDGE 15"x6"x(3"—2½")
" No. 3 WEDGE 15"x6"x(3"—2")

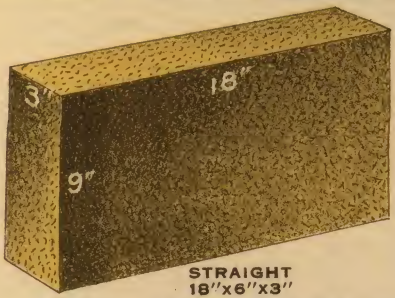


STRAIGHT
15"x9"x3"

ALSO No. 1 WEDGE 15"x9"x(3"—2¾")
" No. 2 WEDGE 15"x9"x(3"—2½")
" No. 3 WEDGE 15"x9"x(3"—2")

STRAIGHT
18"x6"x3"

ALSO No. 1 WEDGE 18"x6"x(3"—2¾")
" No. 2 WEDGE 18"x6"x(3"—2½")
" No. 3 WEDGE 18"x6"x(3"—2")



STRAIGHT
18"x6"x3"

ALSO No. 1 WEDGE 18"x9"x(3"—2¾")
" No. 2 WEDGE 18"x9"x(3"—2½")
" No. 3 WEDGE 18"x9"x(3"—2")

STRAIGHT
20"x6"x3"

ALSO No. 1 WEDGE 20"x6"x(3"—2¾")
" No. 2 WEDGE 20"x6"x(3"—2½")
" No. 3 WEDGE 20"x6"x(3"—2")

STRAIGHT
20"x9"x3"

ALSO No. 1 WEDGE 20"x9"x(3"—2¾")
" No. 2 WEDGE 20"x9"x(3"—2½")
" No. 3 WEDGE 20"x9"x(3"—2"

AS ADDITIONAL SHAPES ARE STANDARDIZED SUPPLEMENTARY SHEETS WILL BE ISSUED.

TABLE OF 9-INCH ARCH BRICK

Inside Diameter	No. 3 Arch	No. 2 Arch	No. 1 Arch	Straight	Total
0 ft. 6 in.	19	.....	.....	.....	19
1 " 0 "	12	15	.....	.....	27
1 " 6 "	4	30	.....	.....	34
1 " 9 "	.....	38	.....	.....	38
2 " 0 "	.....	34	8	.....	42
2 " 6 "	.....	26	23	.....	49
3 " 0 "	.....	19	38	.....	57
3 " 6 "	.....	11	53	.....	64
4 " 0 "	.....	4	68	.....	72
4 " 3 "	.....	.....	76	.....	76
4 " 6 "	.....	.....	76	4	80
5 " 0 "	.....	.....	76	11	87
5 " 6 "	.....	.....	76	19	95
6 " 0 "	.....	.....	76	27	103
6 " 6 "	.....	.....	76	34	110
7 " 0 "	.....	.....	76	42	118
7 " 6 "	.....	.....	76	49	125
8 " 0 "	.....	.....	76	57	133
8 " 6 "	.....	.....	76	64	140
9 " 0 "	.....	.....	76	72	148
9 " 6 "	.....	.....	76	79	155
10 " 0 "	.....	.....	76	87	163
10 " 6 "	.....	.....	76	94	170
11 " 0 "	.....	.....	76	102	178
11 " 6 "	.....	.....	76	109	185
12 " 0 "	.....	.....	76	117	193

TABLE OF 9-INCH WEDGE BRICK

Inside Diameter	No. 2 Wedge	No. 1 Wedge	Straight	Total
2 ft. 3 in.	57	.....	.....	57
2 " 6 "	49	11	.....	60
3 " 0 "	38	30	.....	68
3 " 6 "	26	50	.....	76
4 " 0 "	12	71	.....	83
4 " 6 "	.....	91	.....	91
5 " 0 "	.....	91	8	99
5 " 6 "	.....	91	15	106
6 " 0 "	.....	91	23	114
6 " 6 "	.....	91	30	121
7 " 0 "	.....	91	38	129
7 " 6 "	.....	91	45	136
8 " 0 "	.....	91	53	144
8 " 6 "	.....	91	60	151
9 " 0 "	.....	91	68	159
9 " 6 "	.....	91	76	167
10 " 0 "	.....	91	83	174
10 " 6 "	.....	91	91	182
11 " 0 "	.....	91	98	189
11 " 6 "	.....	91	106	197
12 " 0 "	.....	91	113	204
12 " 6 "	.....	91	121	212
13 " 0 "	.....	91	128	219
13 " 6 "	.....	91	136	227
14 " 0 "	.....	91	143	234
14 " 6 "	.....	91	151	242

TABLE OF 9-INCH WEDGE BRICK

(Continued.)

15 " 0 "	.....	91	158	249
15 " 6 "	.....	91	166	257
16 " 0 "	.....	91	173	264
16 " 6 "	.....	91	181	272
17 " 0 "	.....	91	188	279
17 " 6 "	.....	91	196	287
18 " 0 "	.....	91	203	294
18 " 6 "	.....	91	211	302
19 " 0 "	.....	91	218	309
19 " 6 "	.....	91	226	317
20 " 0 "	.....	91	233	324
20 " 6 "	.....	91	241	332
21 " 0 "	.....	91	248	339
21 " 6 "	.....	91	256	347
22 " 0 "	.....	91	263	354
22 " 6 "	.....	91	271	362
23 " 0 "	.....	91	278	369
23 " 6 "	.....	91	286	377
24 " 0 "	.....	91	293	384
24 " 6 "	.....	91	301	392
25 " 0 "	.....	91	308	399
25 " 6 "	.....	91	316	407
26 " 0 "	.....	91	323	414
26 " 6 "	.....	91	331	422
27 " 0 "	.....	91	338	429
27 " 6 "	.....	91	346	437

TABLE OF 9-INCH KEY BRICK

Inside Diameter	No. 4 Key	No. 3 Key	No. 2 Key	No. 1 Key	Straight	Total
1 ft. 6 in.	25	.....	.....	.....	.....	25
2 " 0 "	16	13	.....	.....	.....	29
2 " 6 "	9	25	.....	.....	.....	34
3 " 0 "	.....	38	.....	.....	.....	38
3 ft. 6 in.	.....	29	13	.....	.....	42
4 " 0 "	.....	21	25	.....	.....	46
4 " 6 "	.....	12	38	.....	.....	50
5 " 0 "	.....	5	50	.....	.....	55
5 " 3 "	.....	.....	57	.....	.....	57
5 " 6 "	.....	.....	55	4	.....	59
6 " 0 "	.....	.....	50	13	.....	63
6 " 6 "	.....	.....	46	21	.....	67
7 " 0 "	.....	.....	42	29	.....	71
7 " 6 "	.....	.....	38	38	.....	76
8 " 0 "	.....	.....	34	46	.....	80
8 " 6 "	.....	.....	29	55	.....	84
9 " 0 "	.....	.....	25	63	.....	88
9 " 6 "	.....	.....	21	71	.....	92
10 " 0 "	.....	.....	17	80	.....	97
10 " 6 "	.....	.....	13	88	.....	101
11 " 0 "	.....	.....	9	96	.....	105
11 " 6 "	.....	.....	4	105	.....	109
12 " 0 "	.....	.....	.....	113	.....	113

TABLE OF 9-INCH KEY BRICK

(Continued.)

Inside Diameter	No 4 Key	No. 3 Key	No 2 Key	No. 1 Key	Straight	Total
12 " 6 "	.....	.....	.....	113	4	117
13 " 0 "	.....	.....	.....	113	9	122
13 " 6 "	.....	.....	.....	113	13	126
14 " 0 "	.....	.....	.....	113	17	130
14 " 6 "	.....	.....	.....	113	21	134
15 " 0 "	.....	.....	.....	113	25	138
15 " 6 "	.....	.....	.....	113	30	143
16 " 0 "	.....	.....	.....	113	34	147
16 " 6 "	.....	.....	.....	113	38	151
17 " 0 "	.....	.....	.....	113	42	155
17 " 6 "	.....	.....	.....	113	46	159
18 " 0 "	.....	.....	.....	113	50	163
18 " 6 "	.....	.....	.....	113	55	168
19 " 0 "	.....	.....	.....	113	59	172
19 " 6 "	.....	.....	.....	113	63	176
20 " 0 "	.....	.....	.....	113	67	180
20 " 6 "	.....	.....	.....	113	71	184
21 " 0 "	.....	.....	.....	113	76	189
21 " 6 "	.....	.....	.....	113	80	193
22 " 0 "	.....	.....	.....	113	84	197
22 " 6 "	.....	.....	.....	113	88	201
23 " 0 "	.....	.....	.....	113	92	205
23 " 6 "	.....	.....	.....	113	97	210
24 " 0 "	.....	.....	.....	113	101	214
24 " 6 "	.....	.....	.....	113	105	218
25 " 0 "	.....	.....	.....	113	109	222
25 " 6 "	.....	.....	.....	113	113	226
26 " 0 "	.....	.....	.....	113	117	230
26 " 6 "	.....	.....	.....	113	122	235
27 " 0 "	.....	.....	.....	113	126	239
27 " 6 "	.....	.....	.....	113	130	243
28 " 0 "	.....	.....	.....	113	134	247
28 " 6 "	.....	.....	.....	113	138	251
29 " 0 "	.....	.....	.....	113	143	256
29 " 6 "	.....	.....	.....	113	147	260
30 " 0 "	.....	.....	.....	113	151	264
30 " 6 "	.....	.....	.....	113	155	268
31 " 0 "	.....	.....	.....	113	159	272
31 " 6 "	.....	.....	.....	113	163	276
32 " 0 "	.....	.....	.....	113	168	281
32 " 6 "	.....	.....	.....	113	172	285
33 " 0 "	.....	.....	.....	113	176	289
33 " 6 "	.....	.....	.....	113	180	293
34 " 0 "	.....	.....	.....	113	184	297
34 " 6 "	.....	.....	.....	113	189	302
35 " 0 "	.....	.....	.....	113	193	306

TABLE OF 9X6X3-INCH KEY BRICK

Inside Diameter	No. 2 Key 9x(6-4 1/8) x3	No. 1 Key 9x(6-5 3/4) x3	Squares	Total
6 ft. 0 in.	47	.....	.....	47
6 " 6 "	44	6	.....	50
7 " 0 "	42	12	.....	54
7 " 6 "	38	19	.....	57
8 " 0 "	34	26	.....	60
8 " 6 "	31	32	.....	63
9 " 0 "	27	39	.....	66
9 " 6 "	23	46	.....	69
10 " 0 "	20	52	.....	72
10 " 6 "	16	59	.....	75
11 " 0 "	13	66	.....	79
11 " 6 "	10	72	.....	82
12 " 0 "	6	79	.....	85
12 " 6 "	3	85	.....	88
13 " 0 "	.....	91	.....	91
13 " 6 "	.....	91	3	94
14 " 0 "	.....	91	6	97
14 " 6 "	.....	91	10	101
15 " 0 "	.....	91	13	104
15 " 6 "	.....	91	16	107
16 " 0 "	.....	91	19	110
16 ft. 6 in.	.....	91	22	113
17 " 0 "	.....	91	25	116
17 " 6 "	.....	91	28	119
18 " 0 "	.....	91	32	123
18 " 6 "	.....	91	35	126
19 " 0 "	.....	91	38	129
19 " 6 "	.....	91	41	132
20 " 0 "	.....	91	44	135
20 " 6 "	.....	91	47	138
21 " 0 "	.....	91	50	141
21 " 6 "	.....	91	54	145
22 " 0 "	.....	91	57	148
22 " 6 "	.....	91	60	151
23 " 0 "	.....	91	63	154
23 " 6 "	.....	91	66	157
24 " 0 "	.....	91	69	160
24 " 6 "	.....	91	72	163
25 " 0 "	.....	91	76	167
25 " 6 "	.....	91	79	170
26 " 0 "	.....	91	82	173
26 " 6 "	.....	91	85	176
27 " 0 "	.....	91	88	179
27 " 6 "	.....	91	91	182
28 " 0 "	.....	91	94	185
28 " 6 "	.....	91	98	189
29 " 0 "	.....	91	101	192
29 " 6 "	.....	91	104	195
30 " 0 "	.....	91	107	198

TABLE OF 13½-INCH KEY BRICK

Inside Diameter	No. 2 Key	No. 1 Key	Straight	Total
6 ft. 0 in.	52	.....	.....	52
6 " 6 "	48	7	.....	55
7 " 0 "	42	16	.....	58
7 " 6 "	37	24	.....	61
8 " 0 "	33	32	.....	65
8 " 6 "	28	40	.....	68
9 " 0 "	23	48	.....	71
9 " 6 "	18	56	.....	74
10 " 0 "	12	65	.....	77
10 " 6 "	7	73	.....	80
11 " 0 "	2	81	.....	83
11 " 3 "	.....	85	.....	85
11 " 6 "	.....	85	2	87
12 " 0 "	.....	85	5	90
12 " 6 "	.....	85	8	93
13 " 0 "	.....	85	11	96
13 " 6 "	.....	85	14	99
14 " 0 "	.....	85	17	102
14 " 6 "	.....	85	21	106
15 " 0 "	.....	85	24	109
15 " 6 "	.....	85	27	112
16 " 0 "	.....	85	30	115
16 " 6 "	.....	85	33	118
17 " 0 "	.....	85	36	121
17 " 6 "	.....	85	39	124
18 " 0 "	.....	85	43	128
18 " 6 "	.....	85	46	131
19 " 0 "	.....	85	49	134
19 " 6 "	.....	85	52	137
20 " 0 "	.....	85	55	140
20 " 6 "	.....	85	58	143
21 " 0 "	.....	85	61	146
21 " 6 "	.....	85	65	150
22 " 0 "	.....	85	68	153
22 " 6 "	.....	85	71	156
23 " 0 "	.....	85	74	159
23 " 6 "	.....	85	77	162
24 " 0 "	.....	85	80	165
24 " 6 "	.....	85	83	168
25 " 0 "	.....	85	87	172
25 " 6 "	.....	85	90	175
26 " 0 "	.....	85	93	178
26 " 6 "	.....	85	96	181
27 " 0 "	.....	85	99	184
27 " 6 "	.....	85	102	187
28 " 0 "	.....	85	105	190
28 " 6 "	.....	85	109	194
29 " 0 "	.....	85	112	197
29 " 6 "	.....	85	115	200
30 " 0 "	.....	85	118	203
30 " 6 "	.....	85	121	206
31 " 0 "	.....	85	124	209
31 " 6 "	.....	85	127	212
32 " 0 "	.....	85	131	216
32 " 6 "	.....	85	134	219
33 " 0 "	.....	85	137	222
33 " 6 "	.....	85	140	225
34 " 0 "	.....	85	143	228
34 " 6 "	.....	35	146	231
35 " 0 "	.....	85	149	234

TABLE OF 13½"x9" ARCH BRICK

Inside Diameter	Shapes Required			Total
	13½"x9" No. 2 Arch 13½"x9" x8"x2"	13½"x9" No. 1 Arch 13½"x9" x3"x2½"	Straight 13½"x9" x3"	
3 ft. 0 in.	57	.....	.....	57
3 " 6 "	50	13	.....	63
4 " 0 "	44	25	.....	69
4 " 6 "	38	38	.....	76
5 " 0 "	32	50	.....	82
5 " 6 "	25	63	.....	88
6 " 0 "	19	75	.....	94
6 " 6 "	13	88	.....	101
7 " 0 "	7	101	.....	108
7 " 6 "	.....	113	.....	113
8 " 0 "	.....	113	6	119
8 " 6 "	.....	113	13	126
9 " 0 "	.....	113	19	132
9 " 6 "	.....	113	25	138
10 " 0 "	.....	113	32	145
10 " 6 "	.....	113	38	151
11 " 0 "	.....	113	44	157
11 " 6 "	.....	113	50	163
12 " 0 "	.....	113	57	170
12 " 6 "	.....	113	63	176
13 " 0 "	.....	113	69	182
13 " 6 "	.....	113	76	189
14 " 0 "	.....	113	82	195
14 " 6 "	.....	113	88	201
15 " 0 "	.....	113	94	207
15 " 6 "	.....	113	101	214
16 " 0 "	.....	113	107	220
16 " 6 "	.....	113	113	226
17 " 0 "	.....	113	120	233

TABLE OF STANDARD 9" CIRCLE BRICK

Inside Diameter	Shapes Required					Total
	24-inch Circle	36-inch Circle	48-inch Circle	60-inch Circle	72-inch Circle	
2 ft. 0 in.	12	.....	.....	.....	.....	12
2 " 3 "	9	4	.....	.....	.....	13
2 " 6 "	6	8	.....	.....	.....	14
2 " 9 "	3	12	.....	.....	.....	15
3 " 0 "	.....	16	.....	.....	.....	16
3 " 3 "	.....	11	6	.....	.....	17
3 " 6 "	.....	7	11	.....	.....	18
3 " 9 "	.....	3	16	.....	.....	19
4 " 0 "	.....	.....	20	.....	.....	20
4 " 3 "	.....	.....	14	7	.....	21
4 " 6 "	.....	.....	9	13	.....	22
4 " 9 "	.....	.....	4	19	.....	23
5 " 0 "	.....	.....	.....	24	.....	24
5 " 3 "	.....	.....	.....	17	8	25
5 " 6 "	.....	.....	.....	11	15	26
5 " 9 "	.....	.....	.....	5	22	27
6 " 0 "	.....	.....	.....	.....	28	28

TABLE OF 6" CUPOLA BLOCKS

Inside Diameter Cupola Lining	Shapes Required							
	30 in.	36 in.	42 in.	48 in.	54 in.	60 in.	66 in.	72 in.
2 ft. 6 in.	15	.....	.....	.....	.....	.....	.....	.....
2 " 9 "	8	8	.....	.....	.....	.....	.....	.....
3 " 0 "	.....	17	.....	.....	.....	.....	.....	.....
3 " 3 "	.....	9	9	.....	.....	.....	.....	.....
3 " 6 "	.....	.....	19	.....	.....	.....	.....	.....
3 " 9 "	.....	.....	9	11	.....	.....	.....	.....
4 " 0 "	.....	.....	.....	21	.....	.....	.....	.....
4 " 3 "	.....	.....	.....	10	12	.....	.....	.....
4 " 6 "	.....	.....	.....	.....	23	.....	.....	.....
4 " 9 "	.....	.....	.....	.....	12	12	.....	.....
5 " 0 "	.....	.....	.....	.....	.....	25	.....	.....
5 " 3 "	.....	.....	.....	.....	.....	13	13	.....
5 " 6 "	.....	.....	.....	.....	.....	.....	27	.....
5 " 9 "	.....	.....	.....	.....	.....	.....	15	13
6 " 0 "	.....	.....	.....	.....	.....	.....	.....	29

TABLE OF 4½" CUPOLA BLOCKS

Inside Diameter Cupola Lining	Shapes Required							
	A	B	C	D	E	F	G	H
1 ft. 4 in.	9	....	....	....	....	....	....	....
1 " 6 "	6	4	....	....	....	....	....	....
1 " 9 "	....	11	....	....	....	....	....	....
2 " 0 "	....	6	6	....	....	....	....	....
2 " 3 "	....	....	13	....	....	....	....	....
2 " 6 "	....	....	....	14	....	....	....	....
3 " 0 "	....	....	....	6	10	....	....	....
3 " 4 "	....	....	....	....	17	....	....	....
3 " 6 "	....	....	....	....	14	4	....	....
4 " 0 "	....	....	....	....	5	15	....	....
4 " 3 "	....	....	....	....	....	21	....	....
4 " 6 "	....	....	....	....	....	20	2	....
5 " 0 "	....	....	....	....	....	....	24	....
5 " 6 "	....	....	....	....	....	....	13	13
6 " 0 "	....	....	....	....	....	....	2	27
6 " 1 "	....	....	....	....	....	....	....	29

TABLE OF SILICA 12" WEDGE BRICK

Inside Diameter	Shapes Required				
	3 Wedge 12x4½ x3x2"	2 Wedge 12x4½ x3x2½"	1 Wedge 12x4½ x3x2¾"	Straight 12x4½x3"	Total
4 ft. 0 in	75	.....	.....	.....	75
4 " 6 "	69	13	.....	.....	82
5 " 0 "	63	25	.....	.....	88
5 " 6 "	56	38	.....	.....	94
6 " 0 "	51	50	.....	.....	101

TABLE OF SILICA 12" WEDGE BRICK

(Continued.)

Inside Diameter	3 Wedge 12x4½ x8x2"	2 Wedge 12x4½ x8x2½"	1 Wedge 12x4½ x3x2¾"	Straight 12x4½x3"	Total
6 " 6 "	44	63	.....	.....	107
7 " 0 "	38	75	.....	.....	113
7 " 6 "	31	88	.....	.....	119
8 " 0 "	25	101	.....	.....	126
8 " 6 "	19	113	.....	.....	132
9 " 0 "	12	126	.....	.....	138
9 " 6 "	7	138	.....	.....	145
10 " 0 "	.....	151	.....	.....	151
10 " 6 "	.....	144	13	.....	157
11 " 0 "	.....	138	25	.....	163
11 " 6 "	.....	133	37	.....	170
12 " 0 "	.....	126	50	.....	176
12 " 6 "	.....	119	63	.....	182
13 " 0 "	.....	113	75	.....	188
13 " 6 "	.....	107	88	.....	195
14 " 0 "	.....	101	100	.....	201
14 " 6 "	.....	94	113	.....	207
15 " 0 "	.....	88	126	.....	214
15 " 6 "	.....	82	138	.....	220
16 " 0 "	.....	75	151	.....	226
16 " 6 "	.....	69	163	.....	232
17 " 0 "	.....	63	176	.....	239
17 " 6 "	.....	57	188	.....	245
18 " 0 "	.....	50	201	.....	251
18 " 6 "	.....	44	214	.....	258
19 " 0 "	.....	38	226	.....	264
19 " 6 "	.....	31	239	.....	270
20 " 0 "	.....	25	251	.....	276
20 " 6 "	.....	19	264	.....	283
21 " 0 "	.....	13	276	.....	289
21 " 6 "	.....	6	289	.....	295
22 " 0 "	.....	.....	302	.....	302
22 " 6 "	.....	.....	302	6	308
23 " 0 "	.....	.....	302	12	314
23 " 6 "	.....	.....	302	19	321
24 " 0 "	.....	.....	302	25	327
24 " 6 "	.....	.....	302	31	333
25 " 0 "	.....	.....	302	37	339
25 " 6 "	.....	.....	302	43	345
26 " 0 "	.....	.....	302	50	352
26 " 6 "	.....	.....	302	56	358
27 " 0 "	.....	.....	302	62	364
27 " 6 "	.....	.....	302	68	370
28 " 0 "	.....	.....	302	75	377
28 " 6 "	.....	.....	302	81	383
29 " 0 "	.....	.....	302	87	389
29 " 6 "	.....	.....	302	94	396
30 " 0 "	.....	.....	302	100	402
30 " 6 "	.....	.....	302	106	408
31 " 0 "	.....	.....	302	112	414
31 " 6 "	.....	.....	302	119	421

TABLE OF SILICA 12″ WEDGE BRICK

(Continued.)

Inside Diameter	3 Wedge 12x4½ x8x2″	2 Wedge 12x4½ x8x2½″	1 Wedge 12x4½ x8x2¾″	Straight 12x4½x8″	Total
32 " 0 "	.....	.....	302	125	427
32 " 6 "	.....	.....	302	131	433
33 " 0 "	.....	.....	302	138	440
33 " 6 "	.....	.....	302	144	446
34 " 0 "	.....	.....	302	150	452
34 " 6 "	.....	.....	302	156	458
35 " 0 "	.....	.....	302	163	465
35 " 6 "	.....	.....	302	169	471
36 " 0 "	.....	.....	302	175	477
36 " 6 "	.....	.....	302	182	484
37 " 0 "	.....	.....	302	188	490
37 " 6 "	.....	.....	302	194	496
38 " 0 "	.....	.....	302	200	502
38 " 6 "	.....	.....	302	207	509

TABLE OF SILICA 12″x6″ ARCH BRICK

Inside Diameter	Shapes Required			
	12″ No. 2 Arch 12x6x3x2″	12″ No. 1 Arch 12x6x3x2½″	Straight 12x6x3″	Total
2 ft. 0 in.	38	.....	.....	38
2 " 6 "	31	13	.....	44
3 " 0 "	25	25	.....	50
3 " 6 "	19	38	.....	57
4 " 0 "	13	50	.....	63
4 " 6 "	6	63	.....	69
5 " 0 "	.....	75	.....	75
5 " 6 "	.....	75	6	81
6 " 0 "	.....	75	12	87
6 " 6 "	.....	75	18	93
7 " 0 "	.....	75	25	100
7 " 6 "	.....	75	31	106
8 " 0 "	.....	75	37	112
8 " 6 "	.....	75	43	118
9 " 0 "	.....	75	50	125
9 " 6 "	.....	75	56	131
10 " 0 "	.....	75	62	137

TABLE OF SILICA 13½" WEDGE BRICK

Inside Diameter	Shapes Required				Total
	No. 3 Wedge 13½"x 6"x3" x2"	No. 2 Wedge 13½"x 6"x3" x2⅛"	No. 1 Wedge 13½"x 6"x3" x2¼"	Straight 13½"x6" x8"	
4 ft. 6 in.	85	.....	.....	.....	85
5 " 0 "	79	13	.....	.....	92
5 " 6 "	73	25	.....	.....	98
6 " 0 "	66	38	.....	.....	104
6 " 6 "	60	50	.....	.....	110
7 " 0 "	54	63	.....	.....	117
7 " 6 "	47	76	.....	.....	123
8 " 0 "	41	88	.....	.....	129
8 " 6 "	35	101	.....	.....	136
9 " 0 "	29	113	.....	.....	142
9 " 6 "	22	126	.....	.....	148
10 " 0 "	16	138	.....	.....	154
10 " 6 "	10	151	.....	.....	161
11 " 0 "	3	164	.....	.....	167
11 " 3 "	.....	170	.....	.....	170
11 " 6 "	.....	167	6	.....	173
12 " 0 "	.....	160	19	.....	179
12 " 6 "	.....	154	32	.....	186
13 " 0 "	.....	148	44	.....	192
13 " 6 "	.....	141	57	.....	198
14 " 0 "	.....	135	69	.....	204
14 " 6 "	.....	129	82	.....	211
15 " 0 "	.....	123	94	.....	217
15 " 6 "	.....	116	107	.....	223
16 " 0 "	.....	110	120	.....	230
16 " 6 "	.....	104	132	.....	236
17 " 0 "	.....	97	145	.....	242
17 " 6 "	.....	91	157	.....	248
18 " 0 "	.....	85	170	.....	255
18 " 6 "	.....	79	182	.....	261
19 " 0 "	.....	72	195	.....	267
19 " 6 "	.....	66	208	.....	274
20 " 0 "	.....	60	220	.....	280
20 " 6 "	.....	54	232	.....	286
21 " 0 "	.....	47	245	.....	292
21 " 6 "	.....	41	258	.....	299
22 " 0 "	.....	35	270	.....	305
22 " 6 "	.....	28	283	.....	311
23 " 0 "	.....	22	295	.....	317
23 " 6 "	.....	16	308	.....	324
24 " 0 "	.....	10	320	.....	330
24 " 6 "	.....	4	333	.....	337
24 " 9 "	.....	.....	340	.....	340
25 " 0 "	.....	.....	340	3	343
25 " 6 "	.....	.....	340	9	349

TABLE OF SILICA 13½" WEDGE BRICK

(Continued.)

Inside Diameter	No. 3 Wedge 13½"x 6"x3" x2"	No. 2 Wedge 13½"x 6"x3" x2½"	No. 1 Wedge 13½"x 6"x3" x2¾"	Straight 13½"x6" x3"	Total
26 " 0 "	.....	.....	340	15	355
26 " 6 "	.....	.....	340	22	362
27 " 0 "	.....	.....	340	28	368
27 " 6 "	.....	.....	340	35	375
28 " 0 "	.....	.....	340	41	381
28 " 6 "	.....	.....	340	47	387
29 " 0 "	.....	.....	340	53	393
29 " 6 "	.....	.....	340	60	400
30 " 0 "	.....	.....	340	66	406
30 " 6 "	.....	.....	340	72	412
31 " 0 "	.....	.....	340	79	419
31 " 6 "	.....	.....	340	85	425
32 " 0 "	.....	.....	340	91	431
32 " 6 "	.....	.....	340	97	437
33 " 0 "	.....	.....	340	104	444
33 " 6 "	.....	.....	340	110	450
34 " 0 "	.....	.....	340	116	456
34 " 6 "	.....	.....	340	122	462
35 " 0 "	.....	.....	340	129	469
35 " 6 "	.....	.....	340	135	475
36 " 0 "	.....	.....	340	141	481
36 " 6 "	.....	.....	340	147	487
37 " 0 "	.....	.....	340	154	494
37 " 6 "	.....	.....	340	160	500
38 " 0 "	.....	.....	340	167	507
38 " 6 "	.....	.....	340	173	513
39 " 0 "	.....	.....	340	179	519
39 " 6 "	.....	.....	340	185	525
40 " 0 "	.....	.....	340	192	532
40 " 6 "	.....	.....	340	198	538
41 " 0 "	.....	.....	340	204	544
41 " 6 "	.....	.....	340	211	551
42 " 0 "	.....	.....	340	217	557
42 " 6 "	.....	.....	340	223	563
43 " 0 "	.....	.....	340	229	569
43 " 6 "	.....	.....	340	236	576
44 " 0 "	.....	.....	340	242	582
44 " 6 "	.....	.....	340	248	588
45 " 0 "	.....	.....	340	255	595
45 " 6 "	.....	.....	340	261	601
46 " 0 "	.....	.....	340	267	607
46 " 6 "	.....	.....	340	273	613
47 " 0 "	.....	.....	340	280	620
47 " 6 "	.....	.....	340	286	626
48 " 0 "	.....	.....	340	292	632

TABLE OF SILICA 12X6X3-INCH KEY BRICK

Inside Diameter	Shapes Required			
	No. 2 Key 12x6x5x3″	No. 1 Key 12x6x5½x3″	Straights 12x6x3″	Total
10 ft. 0 in.	75	.....	.....	75
10 " 6 "	72	6	.....	78
11 " 0 "	69	13	.....	82
11 " 6 "	66	19	.....	85
12 " 0 "	63	25	.....	88
12 " 6 "	60	31	.....	91
13 " 0 "	56	38	.....	94
13 " 6 "	53	44	.....	97
14 " 0 "	51	50	.....	101
14 " 6 "	47	57	.....	104
15 " 0 "	44	63	.....	107
15 " 6 "	41	69	.....	110
16 " 0 "	38	75	.....	113
16 " 6 "	34	82	.....	116
17 " 0 "	31	88	.....	119
17 " 6 "	29	94	.....	123
18 " 0 "	25	101	.....	126
18 " 6 "	22	107	.....	129
19 " 0 "	19	113	.....	132
19 " 6 "	16	119	.....	135
20 " 0 "	12	126	.....	138
20 " 6 "	9	132	.....	141
21 " 0 "	7	138	.....	145
21 " 6 "	3	145	.....	148
22 " 0 "	.....	151	.....	151
22 " 6 "	.....	151	3	154
23 " 0 "	.....	151	6	157
23 " 6 "	.....	151	9	160
24 " 0 "	.....	151	12	163
24 " 6 "	.....	151	16	167
25 " 0 "	.....	151	19	170
25 " 6 "	.....	151	22	173
26 " 0 "	.....	151	25	176
26 " 6 "	.....	151	28	179
27 " 0 "	.....	151	31	182
27 " 6 "	.....	151	34	185
28 " 0 "	.....	151	38	189
28 " 6 "	.....	151	41	192
29 " 0 "	.....	151	44	195
29 " 6 "	.....	151	47	198
30 " 0 "	.....	151	50	201
30 " 6 "	.....	151	53	204
31 " 0 "	.....	151	56	207

PLANTS

STRASBURG, OHIO,
Located on B. & O. R. R.

EMPIRE, OHIO,
Located on Penna. Company, Ry.

ALEXANDRIA, PA.,
Located on P. R. R.

LOCK HAVEN, PA.,
Located on P. R. R.

ZOAR, OHIO,
Located on W. & L. E. R. R.